PATHFINDER

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An informal newsletter produced for the GPS user community by Army PM GPS, Fort Monmouth, NJ. Information presented is based on published and submitted news items of interest to the general user. Widest dissemination and reproduction is encouraged. Newsworthy items are solicited for inclusion. Editor Mr. Don Mulligan at PM GPS, Ft Monmouth NJ DSN 992-6137 or (732) 532-6137 or email: **Donald.Mulligan@mail1.monmouth.army.mil**

The PATHFINDER can be found online at: http://army-gps.robins.af.mil

PM's Corner

Hello GPS Users!

If you use the BA-5800 battery in your PLGR, keep your guard up! This battery can be volatile if handled roughly and if left inside when you connect your PLGR to external power, you run the risk of a battery explosion. A soldier was slightly injured recently when the battery in his PLGR exploded as a result of such an oversight. Don't let it happen to you.

Last Spring, President Clinton "relaxed" control of the GPS signal, and ever since then some folks have misinterpreted his action to mean that COMSEC keys are no longer required for military operations. Friends let me tell you, that is wrong! Read the first article in this issue to understand why, but the bottom line is simple: If you don't have COMSEC keys in your PLGR, you're not ready to deploy.

This issue also shares PLGR "lessons learned" from recent field exercises. Take a look and see if you can't benefit from these experiences. And maybe you have something to share with us?

I'd like to welcome the many units that signed up to receive the Pathfinder as a result of a recent article in PS Magazine! If you have a question, call, write, email or fax us using the "how to contact us" box!

LTC Eveland

As a result of recent world events, the GPS crypto key has changed. If your PLGR displays **"CHECK GUV KEY",** see your **COMSEC custodian**.

Q: I hear we don't need COMSEC codes anymore since the President declassified the GPS signal last year. Is that right?

No it sure isn't! In June 2000, the President directed that Selective Availability (SA) be turned off. SA is the intentional error in the GPS signal that keeps civil GPS from being "too accurate" so that adversaries can't use it to target US forces. For years, political and economic interests lobbied the President to improve the accuracy of civil GPS to ensure continued growth of the American GPS industry and by "turning off" SA, the President achieved that goal. So what about protecting military users?

A little background: From the beginning, GPS was intended to be a dual use technology, meaning it would serve both military and civil users. While all users get the same satellite signal, only military users (using COMSEC) can read the encrypted portion of the signal to factor out the effects of SA and to get additional protection from jamming and spoofing. These high performance features are referred to as Precise Positioning Service (PPS). By comparison, civil receivers are limited to Standard Positioning Service (SPS) meaning they are more susceptible to accidental or intentional interference (jamming) or false signals (spoofing).

In peacetime, with SA turned off and no jamming or spoofing, the accuracy of civil GPS receivers and military receivers without COMSEC will appear about equal. So can military units forget about COMSEC? No. In a deployed Area of Operations (AO) you must expect hostile forces to attempt to interfere with the GPS signal through jamming and spoofing. And if they don't, we will. That's right, the DoD has established "new

mechanisms" to protect the military advantage for GPS on the battlefield. This means the DoD can target an AO to deny the use of the civil code by potential enemies within that zone. Military receivers with active COMSEC will still get PPS accuracy (including better tracking) and signal protection, same as before. Military receivers without COMSEC will be without GPS in the AO.

So if you think a PLGR without COMSEC works just fine in peacetime, remember all bets are off if you deploy. Since military units should "train as they would fight," you should stay in practice and always use COMSEC when operating PLGR.

For more information on GPS security, contact any of the PM GPS offices or send your query to the website: http://army-gps.robins.af.mil

Safety Notices: PLGR Batteries

The US Army Communications Electronics Command Battery Management Office (CECOM BMO) is responsible to develop power sources for all US military forces. The CECOM BMO and the CECOM Directorate for Safety investigate all incidents involving PLGR batteries and have issued several Ground Precautionary Messages (GPM) and a Safety of Use Message (SOUM). Although these messages are not new, we are repeating this information because the following conditions present a danger of personal injury and equipment damage:

a. When PLGR is connected to external power with a BA-5800 battery installed. As a result of incidents and injuries resulting from exploding BA-5800 batteries in externally powered PLGRs, CECOM GPMs 97-013, 96-012, and 96-011 were issued requiring BA-5800 batteries to be removed prior to connecting to external power. The content of this notice was included in the PLGR TM Change 2 dated 26 Nov 97. The messages also identified alternative power sources and provide general battery recommendations.

b. When certain defective main power batteries are installed. CECOM GPM 99-002 and SOUM 98-001 were issued addressing deadline status of ALL Ballard BA-5800 batteries manufactured under contract number DAAB07-90-C-C024. In addition to the contract number, these bad-boy batteries are identified by their solid black color as opposed to the black and green color common to other BA-5800s.

c. When the PLGR is incorrectly connected to host vehicle power. As a result of exploding memory batteries due to improper connection to vehicle power, CECOM GPM 97-005 was issued providing instructions on how to properly connect vehicle power (using either one or two battery systems) to the PLGR.

d. When certain defective memory batteries are installed. To prevent injury or equipment damage, CECOM GPM 97-004 was issued providing instructions for inspecting and replacing leaking Eternacell TO6/51 memory batteries.

Okay, you understand the messages. What should you do? The CECOM BMO advises:

a. Always treat the BA-5800 battery with care since it can be volatile, if mishandled. Use proper handling during transportation, storage, use, turn-in processing, and disposal.

b. Remove any Ballard BA-5800 batteries (see GPM 99-002) still in stock and dispose of them as hazardous material. For these batteries, to prevent injury, NEVER push the complete discharge devices prior to disposal.

c. If you use external power to operate PLGR in a vehicle or ground station, prevent damage or possible battery explosion by first removing the BA-5800 battery. (If a battery vents, write down the information from the battery casing before you dispose of it and report it to CECOM Safety. That will help greatly in case a bad batch of batteries needs to be identified and removed from service).

d. Consider the alternatives to the BA-5800! These include lesser-performing but safer AA size alkaline or rechargeable batteries and the optional battery tray insert.

Battery safety messages can be obtained from the CECOM Directorate for Safety at DSN 992-0084 (ext 6447) or commercial (732) 532-0084 (ext 6447).

Rechargeable replacement for BA-5800?

Yes, The CECOM LRC Power Sources office is developing a rechargeable battery system that will include a replacement for the BA-5800 battery. The plan is to introduce a "universal" rechargeable battery system with batteries and chargers that can be carried by the soldier or installed to vehicles. It will be a rugged design for field use. The use of rechargeable batteries should reduce unit-operating costs. We can't say more until after the bids are evaluated and a winning contractor is selected. We will bring you the details as soon as they are available so that field units can order the system. For more information on the Army rechargeable battery program visit the website at www.monmouth.army.mil/lrc/lrchq/power.

Don Brockel at CECOM, (732) 532-4948

Updated PLGR Software

We've learned that a number of units still operate PLGR with old software. Approximately 100,000 PLGRs were fielded to DoD over a 5-year period using two versions of PLGR operating software. Although PLGR with either version of software are interchangeable in most applications, we will always maintain two versions of approved PLGR software. A third version for use by a limited group of Army users was introduced recently. The most recent reprogramming occurred in 1999 when PLGR software was updated to correct a safety-related defect that could cause a false reading of position location and accuracy. That was important and all Army PLGR purchased through our Joint Program Office (JPO) contract should display one of the following software version numbers:

613-9854-003
613-9544-008
613-9868-006

If your PLGR doesn't display one of these version numbers, call Warner Robins for assistance to determine what action is necessary. The POC for PLGR software there is Mr. Frank Rowe at DSN 468-9511 or commercial (478) 926-9511 or 3288.

(Note: Foreign Military Sales customers should contact their Rockwell-Collins service representative to confirm the correct software version for their PLGR).

PLGR External Power, Good and Bad

Many units use the external power cable to connect PLGR to a 9-32 volt DC vehicle power source. Others tap into 110/220VAC power using the AC power adapter for classroom or lab use. That's good because it reduces battery consumption and operating costs.

Unfortunately a lot of internal PLGR damage traces back to bad external power connections. That's bad as discussed below because most damage could be avoided if more attention was paid to the power connection. This issue of Pathfinder presents several articles and lessons learned that address the use of external power. Please review them and see if you can't avoid someone else's mistakes!

Power Connections: "You're Killing Us"

There has been a surge in PLGR damage resulting from improper external power connections. A large number of these failures show damaged external power ports (J4) or serial ports (J2). The turn-ins coincide with Task Force XXI PLGR integration efforts. Since December 1999, over 1,187 PLGRs were submitted for repair of user-induced power failures. An additional 371 PLGRs were scrapped because the extent of power related damages made them uneconomical to repair. The impact? Over $432,000 to repair PLGRs and approximately $500,000 to replace the scrapped PLGRs. "You're killing us!"

In an effort to reduce the volume of external power-related failures, PM GPS is investigating a modification of the external power cable and PLGR mount. The idea is to provide a "fail safe" power connection by introducing a cut-off switch in the PLGR installation. We'll provide a full report on the idea in the June 2001 issue of Pathfinder. In the meantime, if you use the PLGR in a weapons systems integration, we recommend that you review the proper procedures for 1) installing the external power cable to a vehicle, and 2) proper method for connecting cables to the PLGR. Check the information in the articles titled "Installing PLGR: The Power Connection." and "Installing PLGR: Verifying PLGR Connections." Elsewhere in this issue.

William Burnette, Jr. DSN 468-1109

Can we do anything to protect our Serial Port from damage now?

Yes, always attach power last and disconnect power first when making power and serial port connections to the PLGR! When the Rockwell Collins repair center evaluated PLGRs returned with serial port damage, the majority of the cases showed the ground trace (pin 3 of the J2 connector) was blackened or burned out completely. This indicates damage as a result of a short circuit condition across the serial port. This can happen if you make the J2 connection with PLGR still connected to external power as you reach around the back without removing it from the mount. In the process of making the J2 connection "by feel" and sliding the connector into position, you make metal-to-metal contact with the pins and short the connector. Solution? Disconnect the power cable before you connect the serial port data cable!

William Burnette, Jr. DSN 468-1109

My PLGR indicates "serial port damage" so I have to send it in for repair, right?

Maybe not! Check this field report:

Company C, 704th DivSpt Bn (DSB) 4th Infantry Division: Front: CW2 Boudiette; Back row (L-R): PV2 Hance, SGT O'Dell, SGT Taylor, SPC Thibodeax

Chief Boudiette and his crew shown here discovered that reprogramming PLGR software sometimes "fixes" a bad PLGR serial port!

The crew was serving as the main collection point for PLGRs during DCX 2001. With a large batch of PLGR with failed serial ports, they decided to investigate whether reprogramming the PLGRs would restore them to a functional state. Of the 16 PLGRs reprogrammed, seven were revived! So did reprogramming "fix" the bad serial ports? The answer is apparently "Soft – yes, hard – no." Let us explain:

Reprogramming the PLGR apparently reset a "soft" failure (software) that had presented itself as a serial port failure in 7 of the PLGRs. Reprogramming did not however, cure the other 9 PLGRs with "hard" failures (damaged hardware components).

A visual inspection won't reveal whether or not your faulty PLGR has a "soft" or "hard" failure, and opening the PLGR is not an option because that will void the warranty. The majority of PLGRs evaluated at the Rockwell repair center show evidence of "hard" failures such as a circuit device damaged by excessive power in the serial interface.

So should you attempt a fix by reprogramming? We are still investigating why this works but for now, "yes" if you have the reprogramming equipment available to you, give it a shot!

NOTE: If this topic has your interest, more technical advice is available and we have developed a simple RS-422 Serial Port Tester to allow you to quickly assess if your serial port is functioning (although it can't distinguish between a "hard" or "soft" failure). Contact the Georgia Field Office for instructions to build the tester and procedures to use it.

William Burnette, Jr. DSN 468-1109

Lessons Learned from the Field:

1. Follow the correct sequence for connecting and disconnecting the PLGR to its external power and data cables. Connect power last and disconnect power first!

2. Unit maintenance personnel modified the PLGR external power cable by moving the "fuse" to within 8-10 inches of the PLGR-Side connector. This allows them to replace the fuse without getting under the vehicle.

3. Unit maintenance personnel modified the "Battery-End" connector on the power cable by replacing the studs with ones that better fit the battery posts. Best fit? $3/8^{th}$ inch closed end stud connectors, appropriate for 10-12 gauge wire.

4. Because there is a mix of external power cables in the system, units should always try to use the one with the recessed "hot" connection or the one with the Knurled nut. Avoid the one with flush contact tips. (See the article titled “Installing PLGR – The external power cable” elsewhere in this issue.)

5. User should constantly be reminded to check that they have removed the BA-5800 main power battery from the PLGR before connecting to external power. There were two “battery venting” incidents during the most recent training rotation.

6. Not all PLGRs have the battery warning label. These are available from any CECOM LAR office. We recommend units include a check for the label when they inventory PLGRs.

Have a lesson learned? Please share it with us, Call Jim Buggy at DSN 992-4733.

So What’s Your Excuse?

Have you heard: “We don’t use the PLGR because civilian GPS receivers are easier to use,” or “The PLGR is too hard to operate,” or similar excuses for not using PLGR? Well, it is true that the PLGR, designed in 1993, is not state-of-art in terms of graphics or user friendliness. And yes, periodic training is necessary to remain proficient with PLGR menus and data entry. But keeping PLGR locked up in the arms room doesn’t solve anything. As another article in this issue points out, you better not rely on those nifty little commercial GPS receivers when you deploy on a mission. The PLGR may be a little clunky by today’s standards, but it is your official and reliable military-rated GPS receiver.

There are several tools available to support your PLGR training. Right now you can obtain the PLGR Soldiers Guide (TB 11-5825-291-10-2) and PLGR Made Simple pamphlet (TB 11-5825-291-10-3). Contact your publication officer or the Georgia Field Office. A training CD that addresses the use of GPS and various mapping software programs is available from the National Imagery and Mapping College. Call MAJ Gondeck at Defense Mapping School DSN 655-3605 CML (703) 805-3605 for a copy of “Geospatial Information & Services for the Warrior.” Later this summer we will introduce a new CD focused on PLGR operations. The Army GPS website will be posted with the latest information on various training support items.

Installing PLGR: The PLGR Mounting Plate.

To properly install PLGR to a vehicle, start with the mounting plate to hold the plastic PLGR mount. New High Mobility Multi-purpose Wheeled Vehicles (HMMWV) are delivered with a PLGR mounting plate already installed. For previously fielded HMMWVs, you can obtain drawings developed by PM Light Tactical Vehicle (PM LTV) for installing PLGR. These drawings cover most variations of HMMWV design. If you can’t get them through technical publication channels, contact one of the PM GPS offices and we will provide them in hard copy or electronic media:

PLGR Accessory kit 57K3233 is suitable for use in all HMMWV variants, but does not include provisions for mounting the Remote Antenna (RA) in soft-top vehicles.

PLGR Accessory kit 57K3242 is suitable for the M1114 and includes a bracket for RA installation that is identified as P/N 12460300. So, users wanting to install PLGRs in soft-top HMMWVs, i.e. M998, M1038, etc., should use IK 57K3233 to mount the PLGR itself and P/N 12460300 from IK 57K3242 to mount the RA.

These plate designs may be useful for other vehicles as well. If you need guidance or assistance with installing PLGR to a vehicle, try the host platform manager or call us.

Chuck Pocher at TMD, DSN 833-2712

Installing PLGR: The Power Connection

The PLGR can be installed to any host vehicle using 9 to 32Volt DC (VDC) power. Take care not to reverse polarity when wiring the cable to the vehicle power source. The wire with the in-line fuse is always the positive or “hot” wire. Reversing the wires may damage your PLGR.

Most military vehicles with more than one battery have them connected in series. The PLGR ground MUST be the same as the vehicle ground! Simply put, the PLGR grounding wires must be attached to the same battery post as the ground cable that comes from the vehicle to the battery. Attach the grounding wire to the battery post - not to the vehicle body. Not following these instructions can result in a hardware failure inside the PLGR that will cause the 3.6 VDC memory battery to receive a charge from the host vehicle battery and explode when the memory battery cap touches a grounded metal object while attached to vehicle power.

Michael Wilkin at Fort Monmouth

Installing PLGR: Verifying Connections

Now that you have the mounting plate installed, here is a "Cheat Sheet" to guide you through the rest of the PLGR installation. NOTE: This outline was written for the FBCB2 system and references parts used in that installation. However, much of the guidance applies to any PLGR installation. And remember: Never leave a BA-5800 battery installed to your PLGR before or during connection to a source of external power!

PLGR Connect Procedure:	**Disconnect Procedure:**
1. Attach ground strap	1. Remove PLGR from mount
2. Connect Serial port cable	2. Disconnect power cable
3. Connect Remote Antenna cable	3. Disconnect Remote Antenna cable
4. Connect power cable	4. Disconnect Serial port cable
5. Install PLGR in mount	5. Detach ground strap

Verify Proper PLGR operation:

If PLGR position does not update, or appears to be incorrect, check the following:

1) **FOM** – check FOM in upper right corner of PLGR screen – should read FOM 4 or FOM 5 if PLGR is not keyed, FOM1or FOM2 if keyed (Is it keyed? See item 4) A PLGR will take 12 ½ minutes continuous tracking of one satellite to download almanac data.

2) **Satellite Track**

   a) Press PLGR "Menu" key until first menu screen is displayed (fig 1).

```
<move>    Select
STATUS     SETUP
INIT        TEST
HELP <more>   ⇳P
```

Fig 1 - 1st Menu screen

   b) Press left or right arrow until "STATUS" is selected (flashing)

   c) Press "Down" arrow 4 times to display satellite track screen (fig 2). Second line (CN) will show a signal to noise ratio for any satellite being tracked; if this line is all zeroes, PLGR is unable to track satellites.

```
SV 13 24 30 04
CN 00 00 00 00
CD CA Y  Y  Y
ST S  T  T  D  ⇳P
```

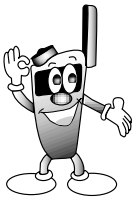
Fig 2 - SV Track screen

3) **Power/Antenna Connections (when your installation is using them)** – Verify as follows:

   a) Press PLGR "Menu" key until first menu screen is displayed (fig 1).

   b) Press left or right arrow until "STATUS" is selected (flashing).

   c) Press "Up" arrow once to display Status Screen #1 (fig 3).



```
STS  GPS good
Self-Test OK
External Antenna
Vehicle power  ⇳P
```

Fig 3 - Status Screen #1

   d) Third line should read "External Antenna." If it says "Internal Antenna," check for the following failures:
      1) Remote antenna connection loose at PLGR
      2) Loose connection at antenna end
      3) Remote antenna bad

   e) Fourth line should read "Vehicle power." If it reads "Battery power," check for the following failures:
      1) Loose power connection at PLGR end of power cable
      2) Loose connection at vehicle end of power cable
      3) Blown power fuse
      4) Damaged power cable

4) **Crypto Keys** - Press PLGR "Menu" key until second menu screen is displayed

(fig 4). If “CRYPTO” is visible at lower left, the PLGR has been keyed. **Note:** PLGR needs to get data from the satellites to complete the crypto process. A keyed PLGR will typically take 15 minutes to get FOM=1.

```
DATA-XFR  SV-SEL
DOP-CALC  ALERTS
SINCGARS  KOI-18
CRYPTO <more> ⇳P
```

Fig 4 - 2nd Menu screen

Verify Serial Connection (if connected to another device):

1) **On PLGR** – Check serial connection as follows:

```
Diff GPS none
1PPS-IN  none
SERIAL   active
BRT off  50%  ⇳P
```

Fig 5 - I/O Status Screen

   a) Press PLGR “Menu” key until first menu screen is displayed (fig 1).

   b) Press down arrow three times to display I/O status page (fig 5).

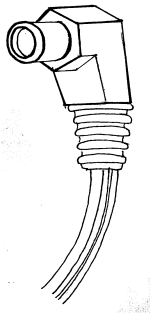
   c) Third line should read “SERIAL active,” If it reads “SERIAL none,” PLGR is not receiving data from the connected device (e.g. FBCB2 or other mission computer).

2) **On The Other System** – Check with that system sponsor to learn how to verify it is properly receiving GPS data from the PLGR.

<u>Installing PLGR: The External Power Cable.</u>

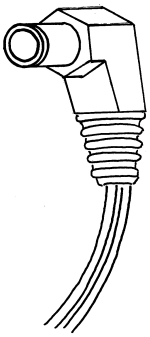
There have been variations in the external power cable, NSN 6150-01-375-8661, since fielding began in 1993 but they all carry the same NSN (except the knurled nut version) so you have to work with whichever ones you get. In the original design, the center conductor (hot) is recessed. However, on some production the center conductor is flush instead of being recessed. If the conductor makes metal-to-metal contact, it can cause a short circuit condition. For installations where the PLGR is frequently installed and removed, the preference is for the recessed conductor version.

PLGR EXTERNAL POWER CABLE
NSN 6150-01-375-8661
(STANDARD VERSION)



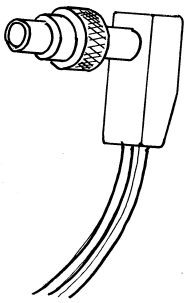
RECESSED CENTER CONDUCTOR POSITIVE CONTACT INSIDE SLEEVE

PLGR EXTERNAL POWER CABLE
NSN 6150-01-375-8661
(VERSION W/ FLUSH CONDUCTOR)



FLUSH CENTER CONDUCTOR POSITIVE CONTACT INSIDE LIP

PLGR EXTERNAL POWER CABLE
NSN 6150-01-469-6066
(RETRACTABLE NUT WITH STRAIGHT
OR DIAMOND KNURL)



RECESSED CENTER CONDUCTOR POSITIVE CONTACT INSIDE SLEEVE

Another point: The power cable has no positive locking mechanism and can work loose in a vehicle with heavy vibrations. This can be fixed by using a power cable with a knurled nut that allows a positive connection. The NSN for this cable is 6150-01-469-6066. Note: If you are using the SINCGARS ground plate around the connector to reduce the potential for GPS interference, the plate doesn't leave enough exposed thread for the knurled nut to grasp.

Next point: The markings of the positive and ground wires on this cable are not consistent. On some cables, the ground wire is color-coded red, which vehicle mechanics interpret to be positive. Others have a thin, white line running the length of the positive line. Carefully trace the line with the fuse to identify the positive wire!

Corrective action? Yes, the Defense Logistics Agency (DLA) is procuring an improved version of the PLGR external power cable under NSN 6150-01-375-8661 with a recessed center conductor and proper color-coding (red for positive and black for ground). If you need a cable with the knurled nut connector, DLA is procuring them under NSN 6150-01-469-6066 and stock should be available shortly.

And here is another field expedient solution to keep your PLGR connections tight: Some units report they use a piece of tape or velcro across the back of the connectors to hold them firmly against the PLGR. Others have compressed a scrap piece of high-density foam or other non-metallic material between the PLGR mount and the back of the PLGR to hold connectors firmly against the PLGR.

Chuck Pocher and Johnny Walker

Installing PLGR: External Power Problems

You've installed PLGR, but now you have a problem with the PLGR turning on or not turning on upon application of power. What's going on?

Assuming you have current software:

1. If the PLGR has no memory battery installed or if the memory battery is non-functional, the PLGR will turn-on automatically every time external power is applied.
2. If the PLGR has a functional memory battery and was in an operating mode when the power was cut, the PLGR will turn-on automatically when external power is restored.
3. If the PLGR has a functional memory battery and was explicitly commanded to Turn Off through either the keypad or by remote control through the serial interface before power is removed, the PLGR will remain off when power is restored.
4. If the memory battery is weak but not completely "dead," the PLGR may behave as in 1 or 2 above!

NOTE 1: If your PLGR was connected to external power, the only time a PLGR does not turn on automatically upon restoration of external power is when the PLGR has been explicitly turned off and has a functioning memory battery.

NOTE 2: If your PLGR is operating on internal main power battery, it will always require a command to be turned on no matter how it was turned off.

NOTE 3: Some PLGRs are integrated to a weapons system and mounted in a remote location. These PLGRs can be turned on remotely by a command from the host system through the serial interface. This is an unusual installation design for PLGR. If you want to know more, contact the TMD office.

Chuck Pocher at TMD, DSN 833-2712

Q: The date on my PLGR Warranty Label is past – doesn't that mean the warranty is expired?

No! The warranty is still good and there is a change in the PLGR Warranty Label! The Army and USAF extended PLGR warranty coverage so even if the warranty expiration date on the label of an older PLGR has passed, it is still covered! PLGRs coming back from repair now carry a different warranty label. The new label indicates the PLGR is a warranted item but does not carry an expiration date. Because the warranty period for Army and Air Force PLGRs was extended, we decided it would be less confusing to the user and easier to administer to remove the date.

This change has no effect on the repair process. Rockwell continues to be the repair facility for all PLGRs so use your local repair return procedures IAW Section 8.2 of the TM

(Change 2). DO NOT stockpile broken PLGRs at the unit or DS level.

Each PLGR will be relabeled as it goes through the repair process. The exclusion-to-warranty rule still applies: If the damage is judged to be outside of warranty coverage, the PLGR will be replaced by the exclusion repair process which typically takes longer than the warranty replacement process.

Navy and Marine Corps users should also follow the procedures in the technical manual. These procedures apply to all military users regardless of participation in the warranty extension. Contact your service POC or me, if you have questions about your particular situation.

Diana Wright at Warner Robins, DSN 468-5096

Can't We Just Repair a Broken PLGR Ourselves?

Yes and No! Certain maintenance procedures are authorized at the user level but PLGR is a sealed receiver and you are not authorized to open it.

YES, you can replace certain external items (along with batteries of course). These include the items listed below along with the internal power battery and the memory battery.

Memory Battery Cap Assy 5340-01-449-1033

J2/J3 Connector Cover 5340-01-449-1045

J4 Connector Cover 5340-01-449-1036

Prime Battery Cap Assembly 5340-01-449-1029

Organizational maintenance for the power cable consists of replacing the in-line fuse. But NO, you cannot open the receiver body.

All internal repairs are performed at the Rockwell Collins repair center (whether the fault is covered by the warranty or not). The maintenance procedures authorized at the unit or DS level are spelled out in the PLGR TM, Change 2. If you get curious and open a PLGR it will still be repaired by Rockwell but you've guaranteed the government will pay the exclusion repair fee of $329.00.

Ed McAuley at RMD DSN 992-6136

How to Contact PM GPS

Army PM GPS has offices in California, Georgia and New Jersey under the direction of LTC Eveland who is located at the Los Angeles Air Force Base. Email sent to any of these contacts will be forwarded to the right office for reply.

For new technical installation advice, new product information, technical test reports and acquisition support planning: PM GPS and the Technical Management Division (TMD) at Los Angeles, CA, call (310) 363-0595 or DSN 833-0595. Email: del.crane@LOSANGELES.AF.MIL

For sustainment issues including software and supply support, technical publications and accessory procurement: Georgia Field Office (GFO) at Warner-Robins, GA, call (478) 926-3288 or DSN 468-3288.
Email: johnny.walker@ROBINS.AF.MIL

For fielding, equipment authorizations, host vehicle installation assistance, and New Equipment Training: Readiness Management Division (RMD) at Fort Monmouth, NJ, call (732) 532-4733 or DSN 992-4733.
Email: james.buggy@mail1.monmouth.army.mil.

Training materials available to support unit level GPS sustainment training include the following:

(1) NET Lesson Plan for PLGR Operator Course
(2) The PLGR TM 11-5825-291-13 with Change 2
(3) (4) (5) The PLGR Soldiers Guide (different covers, same content) TB 11-5825-291-10-2
(6) PLGR Made Simple pamphlet TB 11-5825-291-10-3
(7) PLGR Quick Reference Guide TM 11-5825-291-10
(8) The “Geospatial Information and Services for the Warrior” CD (see article for how to order)
(9) PS Magazine (A frequent source of GPS advice)

This summer a new CD “PLGR Operations” will be introduced

PATHFINDER

PM GPS
Attn: AMSEL-DSA-GPSR
Squier Hall
Fort Monmouth, NJ 07703

ACCT #89

FIRST CLASS